

Family **ENCHELIDIIDAE** Filipjev, 1918

Genus **SYMPLOCOSTOMELLA** Micoletzky, 1930

***Symplocostomella trichostoma*** sp. nov.

(Fig. 12a-c)

**TYPE-LOCALITY.** Off West coast of Cape Province, South Africa.

**MATERIAL STUDIED.**

West Coast Dredging : 1♂ 2♀♀ WCD 86.

**SYNTYPES.** BM(NH) reg. nos 1975.860-862.

## MEASUREMENTS (in mm).

	♂	2♀♀
Body-length	9.01	8.00, 9.90
Body-breadth	0.15	0.29, 0.30
Head-diameter	0.04	0.04, 0.05
Length of oesophagus	1.50	1.41, 1.65
Distance of nerve-ring from anterior end of body	0.50	0.40, 0.39
Distance of excretory pore from anterior end of body	0.09	0.08, 0.09
Length of tail	0.28	0.25, 0.35
Anal diameter	0.11	0.12, 0.12
Length of spicules	0.225	—
Length of gubernaculum	0.06	—
Distance of vulva from anterior end of body	—	4.30, 5.20

DESCRIPTION. *Female*. The body is of even width throughout most of its length. The head narrows a little, while the tail is conical and terminates with a short cylindrical portion, about a third of the total length of the tail. The cuticle appears to be smooth, although in one of the specimens exceedingly fine transverse striations are present in parts of the oesophageal and mid-body regions.

The mouth is surrounded by a cuticular ring, as in other members of the genus *Symphlocostomella* and related genera. Around this ring lies a crown of fine seta-like elements, reminiscent of the leaf-crown found at the entrance to the mouth in certain members of the parasitic nematode family Strongylidae. A little further back on the head a crown of six papillae is situated, and lying at 10  $\mu\text{m}$  posteriorly from the anterior end of the body there is a ring of ten setae, each 10–12  $\mu\text{m}$  long. Two of these setae are disposed close together on each of the dorso-lateral and the ventro-lateral surfaces, and a single seta on each lateral surface. There are several uneven longitudinal rows of short setae on the body in the cervical region. In one of the females there are two prominent papillae situated close together on the ventral side, at 0.4 mm from the anterior end of the body. Comparable, but much smaller and less conspicuous, structures have also been seen in the other female specimen at approximately the same position.

The buccal-cavity is large, measuring 60  $\mu\text{m}$  long and 35  $\mu\text{m}$  at its greatest width. It is sub-divided at the anterior end by two rings, which are rather difficult to make out. At about the level of the cephalic setae where the buccal-cavity widens a little, there is a ring of somewhat pyriform cuticular rodlets. Three teeth are present in the cavity, two sub-ventral and one dorsal. One of the sub-ventral teeth is long and spear-like, and arises from the base of the buccal-cavity. The other sub-ventral tooth is smaller and projects from the buccal-wall about halfway along its length. The dorsal tooth is wide with a serrated anterior margin. The apices of all three teeth lie at approximately the same level. Numerous small denticles occur on the wall of the buccal-cavity close behind the ring of cuticular rodlets. The amphids are quite clearly seen and are shaped somewhat like an inverted cup. Just posteriorly to the amphids there are small triangular pieces that appear to be connected to the amphids by a stalk, which may, however, be an artifact.

The oesophagus very gradually widens towards its posterior end, but does not form a muscular bulb. The ventral gland and duct are very prominent and the

excretory pore is situated at about one and a half times the length of the buccal cavity from the anterior end of the body.

The ovaries are paired, opposed and reflexed. In one of the specimens two eggs are present in each uterus, and in the other specimen there are three in one uterus and two in the other. They are all approximately of the same size, and the largest measures  $0.35 \times 0.20$  mm. The vulva occurs just a little posteriorly to the middle of the body.

*Male.* The only male specimen in the sample of this species is in rather poor condition. Although it appears that males of the genus *Symplocostomella* have not been described hitherto, the present specimen does resemble males of closely-related genera. Sexual dimorphism is known to occur in the family Enchelidiidae, and, having been found together, it seems reasonable to assume that this specimen is conspecific with the females described above. The body is about the same length in both sexes, the tail is very similar and the position and prominence of the ventral gland and excretory pore are also similar. The body of the male is, however, rather stout and very gradually tapers towards the anterior and posterior ends, presenting a fusiform appearance.

The head is small and bulbous and separated from the rest of the body by a constriction. There is no crown of fine seta-like elements as found in the female. There appear to be six small papillae surrounding the simple mouth and further posteriorly a ring of ten setae. Two pairs of setae lie close together on the dorso-lateral surfaces and the setae on the lateral surfaces are a little longer than those on the ventro-lateral surfaces. A buccal-cavity is absent and the head is very simple with a few cuticular processes. The amphids are very prominent and different from those in the female. They are cup-shaped,  $12 \mu\text{m}$  wide and  $10 \mu\text{m}$  deep (see Fig. 12a). Setae occur sporadically in the cervical region.

The internal structures are in very poor condition and may be somewhat macerated. There appears to be a single testis. The spicules are narrow and slender and slightly curved. They are of even width throughout their length. The proximal ends are only very slightly expanded, whilst the distal ends are bluntly pointed. The gubernaculum is simple with a sharp bend in the middle (see Fig. 12c). Extending  $0.08$  mm anteriorly from the cloaca there is a row of 19 mid-ventral papillae, each with a short seta projecting from it. The tail is very similar in shape to that in the female with a short terminal cylindrical portion. There are short setae scattered on the tail.

DISCUSSION. Micoletzky (1930) erected the genus *Symplocostomella* for a new species, *S. javaensis*, and characterized it by the absence of ocelli and lenses and by the presence of a row of small rodlets at the border of the anterior and posterior portions of the buccal-cavity. Vitiello (1970) reviewed the genus and included a key to the species. Only five species were known at that time, and he divided them into two main groups. In the first group the cephalic setae are greater than 50 per cent of the corresponding head-diameter in length and in the second group they are 40 per cent or less. The present species falls in Vitiello's second group and shows some resemblance to *S. mediterranea* Schuurmans Stekhoven, 1950, in which the excretory pore is about 1.6 buccal-cavity lengths from the anterior end of the

body. *S. trichostoma* sp. nov. differs, however, from *S. mediterranea* in being about twice as long, as well as in the presence of denticles in the buccal-cavity, in the shape and size of the amphids and in the ring of seta-like elements around the mouth.

As mentioned above, males of this genus have not been found previously, and the single male found in the present sample appears to belong to the same species of females described above, although it cannot yet be proved conclusively. In general

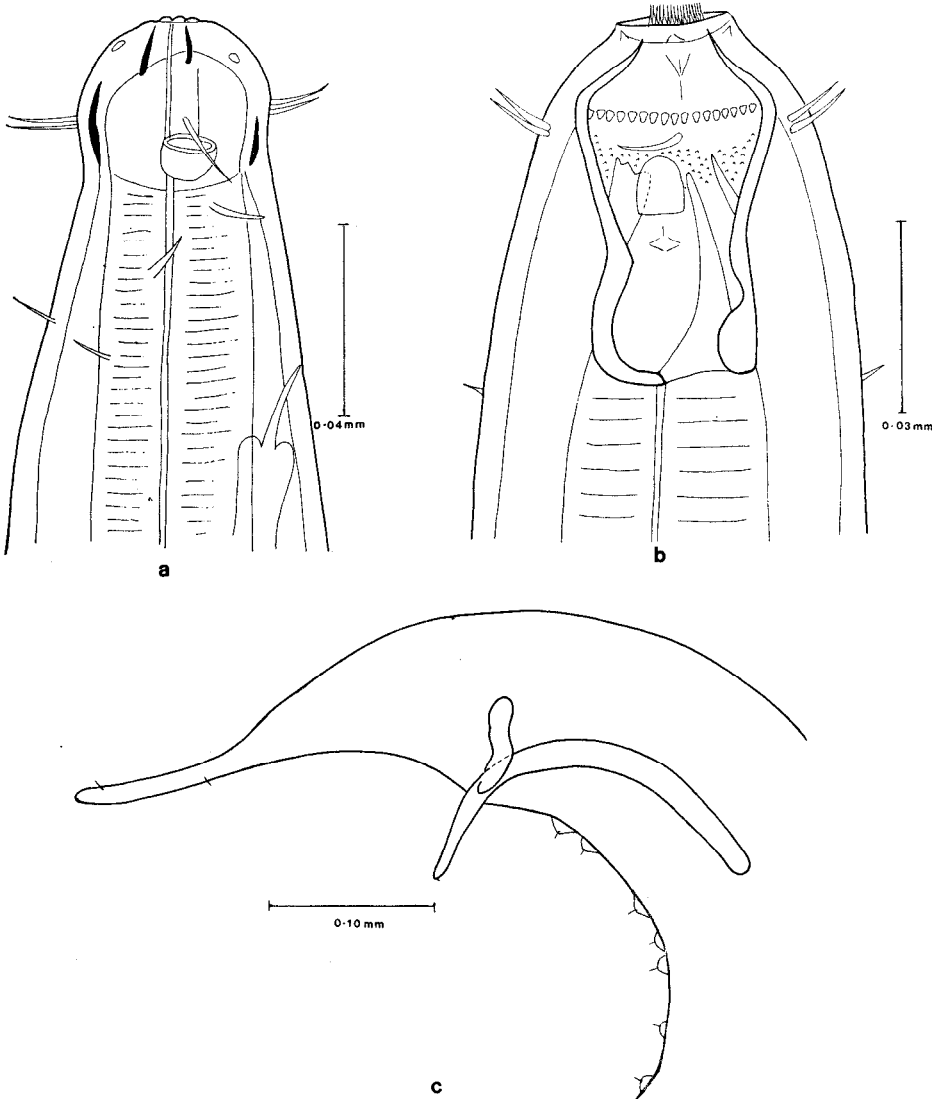


FIG. 12. *Symplocostomella trichostoma* sp. nov. (a) Head of male ; (b) Head of female ; (c) Tail of male.

form it is similar to other males belonging to the family Enchelidiidae, in which sexual dimorphism is known to occur.

GEOGRAPHICAL DISTRIBUTION. Off Cape Province, South Africa (present report).

- FAL 758 34°14.5'S, 18°38.8'E. In khaki-coloured sand at a depth of 53 metres, 17.ii.65 (grab sample).  
 FAL 772 34°17.0'S, 18°29.2'E. In coarse shelly sand at a depth of 27 metres, 15.ii.65 (grab sample).  
 FAL 798 34°21.6'S, 18°38.9'E. In green mud and shelly sand at a depth of 87 metres, 22.ii.65 (grab sample).  
 FAL 806 34°10.7'S, 18°26.3'E. In black mud and hydrogen sulphide at a depth of 18 metres, 17.ii.65 (grab sample).  
 FAL 832 34°14.3'S, 18°29.7'E. In coarse khaki-coloured sand at a depth of 40 metres, 15.ii.65.

## West Coast dredgings

- WCD 41 33°6.5'S, 17°56'E. On a rock substratum at a depth of 18–33 metres, 2.v.60.  
 WCD 71 33°6.5'S, 17°49'E. On a rock substratum at a depth of 91 metres, 22.ix.60.  
 WCD 74 34°25'S, 17°36'E. In khaki-coloured sand at a depth of 1240 metres, 8.x.60 (grab sample).  
 WCD 79 34°17'S, 17°53'E. In green sand and mud at a depth of 320 metres, 8.x.60 (grab sample).  
 WCD 86 33°6.4'S, 17°44.9'E. In green and black mud at a depth of 146 metres, 3.vii.61.  
 WCD 87 33°6.2'S, 17°49'E. In dark green mud on a rocky substratum at a depth of 88 metres 3.vii.61 (grab sample).  
 WCD 90 32°5.0'S, 18°16.7'E. In coarse white sand and shell-gravel at a depth of 39 metres, 2.vii.61.  
 WCD 93 32°5.0'S, 18°16.7'E. In coarse white sand and shell-gravel at a depth of 39 metres, 2.vii.61 (grab sample).  
 WCD 101 32°5.5'S, 18°17.3'E. In coarse white sand and shell-gravel at a depth of 27 metres, 2.vii.61.  
 WCD 108 32°08'S, 17°39'E. In fine dark green mud at a depth of 172 metres, 2.vii.61 (grab sample).  
 WCD 119 33°6.4'S, 17°44.9'E. In green and black mud at a depth of 146 metres, 3.vii.61 (grab sample).  
 WCD 196 33°03.7'S, 17°45.2'E. In coarse sand and shell-gravel at a depth of 33 metres, 25.iv.64.  
 WCD 206 33°08.6'S, 17°57.3'E. On a shell substratum at a depth of 50 metres, 29.iv.64 (grab sample).  
 WCD 210 33°08.4'S, 17°55.1'E. In shelly sand at a depth of 79 metres, 29.iv.64.

## South Coast dredgings

- SCD 115 34°54.4'S, 22°12.2'E. In coarse sand and shell-gravel at a depth of 107 metres, 26.xi.59.  
 SCD 134 34°29'S, 21°49.5'E. In grey-green mud at a depth of 73 metres, 26.xi.59.  
 SCD 136 34°35'S, 21°56'E. In coarse and fine shell-gravel at a depth of 78 metres, 28.viii.60. (grab sample).  
 SCD 197 34°07.5'S, 23°31.7'E. In fine sand at a depth of 79 metres, 29.xi.60.  
 SCD 233 36°28.5'S, 21°11'E. In khaki-coloured sand at a depth of 183 metres, 4.xii.60. (grab sample).  
 SCD 251 34°48'S, 23°39'E. On a rock substratum at a depth of 148 metres, 30.xi.60.  
 SCD 275 34°51'S, 23°41'E. In khaki-coloured sand at a depth of 183 metres, 20.xi.60.  
 SCD 298 33°09'S, 28°02'E. At a depth of 84 metres, 6.ii.62 (grab sample). Substratum type unknown.  
 SCD 303 33°39'S, 27°15'E. In hard sand at a depth of 88 metres, 6.ii.62 (grab sample).  
 SCD 309 33°59'S, 25°51'E. In coarse shell-gravel and mud at a depth of 50 metres, 9.ii.62 (grab sample).